Macintosh Application Environment

Installing and Getting Started

Apple Computer, Inc.

© 1995 Apple Computer, Inc. All rights reserved.

This manual is copyrighted by Apple or by Apple's suppliers, with all rights reserved. Under the copyright laws, this manual may not be copied, in whole or in part, without the written consent of Apple Computer, Inc. This exception does not allow copies to be made for others, whether or not sold, but all of the material purchased may be sold, given, or lent to another person. Under the law, copying includes translating into another language.

The Apple logo is a registered trademark of Apple Computer, Inc. Use of the "keyboard" Apple logo (Option-Shift-K) for commercial purposes without the prior written consent of Apple may constitute trademark infringement and unfair competition in violation of federal and state laws.

© Apple Computer, Inc., 1995
1 Infinite Loop
Cupertino, CA 95014-2084
(408) 996-1010

Apple, the Apple logo, AppleShare, AppleTalk, LaserWriter™, Macintosh™, MacTCP, QuickTime, and TrueType are trademarks of Apple Computer, Inc., registered in the U.S. and other countries.

Balloon Help, DocViewer™, Finder, and Macintosh Application Environment are trademarks of Apple Computer, Inc.

Claris and MacPaint are registered trademarks of Claris Corporation.

Adobe™ and PostScript™ are registered trademarks of Adobe Systems, Inc.

Hewlett-Packard™, HP-UX™, and LaserJet™, are registered trademarks of Hewlett-Packard Company.

Linotronic is a registered trademark of Linotype Co.

NFS™, Solaris™, and Sun™ are trademarks of Sun Microsystems, Inc.

STREAMS/UX™ is a copyright of OpenSoftware Foundation, Inc.

Times is a registered trademark of Linotype AG and/or its subsidiaries.

UNIX is a registered trademark of UNIX Systems Laboratories, Inc.

X Window System™ is a trademark of the Massachusetts Institute of Technology.

Simultaneously published in the United States and Canada.

Mention of third-party products is for informational purposes only and constitutes neither an endorsement nor a recommendation. Apple assumes no responsibility with regard to the performance of these products.

Contents

Preface ix

What you need to know x

New features in MAE version 2 x

What's covered in this guide xi

Terminology used in this guide xii

- Modifier keys xii
- Mouse buttons xii
- Basic mouse and keyboard operations xiii

On-line help and documentation xiv

- The Read Me file (`README.TXT`) xiv
- Balloon Help xiv

1 Installing the Macintosh Application Environment 1

What you need to install and run MAE 2

For all users 2

For Solaris users 2

For HP-UX users 3

Before you begin 3

About the MAE software 3

Installation options 4

The installation steps summarized 4

Starting the installation 5

Starting a local installation from a CD-ROM disc 6

Starting a local installation from a remote server 7

Completing the installation 8

Performing an Easy installation 10

Performing a Custom installation 13

The License Binder 16

Assigning licenses 16

Using the `license_binder` program 16

If the License Binder is administered from a central location 18

Running the License Binder 18

Removing MAE 19

If you have problems installing MAE 20

Installer messages 20

Problems with the License Binder 22

Where to go from here 22

2 Starting and Quitting MAE 23

Starting MAE 23

Using command line options 25

Using manual pages 26

Quitting MAE 26

If you have problems starting MAE 27

MAE cannot open the `apple` directory 27

MAE cannot display in the X display 27

Handling startup problems 28

Problems with the License Binder 29

Where to go from here 30

3 Using the On-Line Documents 31

A brief description of DocViewer 32

Opening a document 32

Searching through a document 33

Navigating through the document 33

Using the Table of Contents 34

Using the Index 34

Filtering the Book Index or the Table of Contents 35

Finding a specific page 35

Finding a specific word or phrase 35

Creating and using bookmarks 36

4 Printing in MAE 37

Setting up for printing: Overview 38

The Chooser 38

Using the Chooser to select a printer through AppleTalk 39

Using the Chooser to select a UNIX printer 41

Setting up the default print command 41

Sources for PPD files 44

Creating a new print command 44

Printing from Macintosh applications 46

Selecting Page Setup options 47

Printing Macintosh files 48

5 New Features in MAE Version 2 49

Overview 50

AppleTalk 50

File sharing 50

Program linking 50

AppleTalk printing 51

MacTCP support 51

Dynamic resizing of the MAE window 51

Sound 51

Network control panel 51

Macintosh System 7.5 enhancements 52
New desktop patterns 52
Launching programs easily 53
Creating Sticky Notes 53
Saving screen space with WindowShade 54
Managing extensions and startup programs 55
License Binder 56
Temporary Installer Volume (TIV) 56
Improved support for Network File System (NFS) 56
Index 57

Preface

Macintosh Application Environment (MAE) is an Apple software product that runs a virtual Macintosh environment on your UNIX workstation. MAE displays the Macintosh desktop interface in an X window. The Macintosh desktop within the MAE window gives you access to your Macintosh applications as well as to UNIX files.

This book explains how to install and set up MAE and how to perform some basic operations (how to start and quit MAE and how to print using MAE). MAE also comes with two on-line documents: *Macintosh Application Environment User's Guide,* which provides detailed instructions on the use of MAE, and *MAE System Administrator's Guide.* You can print the on-line documents using the printing instructions in Chapter 4 of this book, or in Chapter 4 of the *MAE User's Guide.* See also "On-Line Help and Documentation," later in this chapter.

What you need to know

This book assumes that you are familiar with UNIX and with the X Window System. You should know how to perform basic tasks on your workstation, including starting and quitting X applications.

For general information about the X Window System, you may want to read the *X Window System User's Guide for X11 Release 5*, published by O'Reilly and Associates, Inc.

This book also assumes that you are familiar with the Macintosh user interface, including the use of icons, windows, and folders. For a summary of Macintosh commands, see Appendix A of the *MAE User's Guide*, which provides information on basic Macintosh skills. For complete information on the use of the Macintosh, see *Macintosh User's Guide* (part number 030-2651-B). *Macintosh User's Guide* is not included with MAE.

New features in MAE version 2

MAE version 2 contains many new features that considerably expand its usefulness:

- **Improved speed and performance**
- **AppleTalk support:** AppleTalk allows you to use a wide variety of Macintosh networking features:
  - *AppleShare client* for accessing remote AppleShare servers and *FileShare* for sharing files and folders with other MAE users and with Macintosh users locally or across the network; see Chapter 7 of the MAE *User's Guide*
  - *program linking* for allowing programs to exchange information; see Chapter 7 of the *MAE User's Guide*
  - *AppleTalk printing* allows you to use the Print command in your Macintosh applications; see Chapter 4 of this guide
- **MacTCP support:** MacTCP is the Macintosh implementation of the TCP/IP networking protocol; see Chapter 7 of the *MAE User's Guide.*
- **Sound capability:** supports Macintosh sound-based applications. See Appendix B of the *MAE User's Guide.*

- **Dynamic resizing of the MAE window:** You can resize MAE either by using the Monitors control panel or by using your workstations window controls to resize the window without having to reboot MAE. See Appendix B of the *MAE User's Guide.*
- **Macintosh System 7.5 enhancements** including:
  - *Desktop Patterns control panel:* See Appendix B of the *MAE User's Guide.*
  - *Launcher control panel:* See Appendix B of the *MAE User's Guide* for details.
  - *Sticky Notes:* See Appendix B of the *MAE User's Guide.*
  - *WindowShade control panel:* See Appendix B of the *MAE User's Guide.*
  - *Extensions Manager:* See Appendix B of the *MAE User's Guide.*
- **License Binder:** helps the system administrator keep track of the number of MAE licenses used. See Chapter 1 of this guide.
- **Temporary Installer Volume (TIV):** provides an alternate method for installing applications. See Chapter 3 of the *MAE User's Guide.*
- **Improved support for Network File System NFS:** See Chapter 2 of the *MAE System Administrator's Guide.*

What's covered in this guide

This guide contains information on the following topics:

- **Installing the Macintosh Application Environment:** installing MAE on your workstation from a locally mounted CD-ROM disc or across the network
- **Starting and quitting MAE:** starting MAE from the command line after it is installed; quitting MAE
- **Using the on-line documents:** a brief summary of the capabilities and commands of DocViewer, the on-line documentation reader
- **Printing in MAE:** using the Chooser to select AppleTalk printers and UNIX PostScript printers; printing Macintosh applications
- **New features in MAE Version 2:** new MAE features and enhancements to the standard system features of System 7.1
- **Index**

Terminology used in this guide

This section explains the terminology used in this guide to refer to modifier keys and to various mouse and keyboard operations.

Modifier keys

This book refers often to several modifier keys that appear on standard Apple keyboards: Command (⌘), Option, Control, and Caps Lock. Since most workstation keyboards do not come with these modifier keys, MAE assigns the Macintosh modifier keys to keys on your workstation keyboard. MAE also assigns two commonly used X Window System modifier keys, Alt and Mode Switch, to keys on your keyboard. When this guide mentions the name of a Macintosh modifier key, such as Option, you should use the key on your keyboard to which it has been mapped.

To check your modifier key settings, open the MAE Keyboard control panel. (Choose Control Panels from the Apple (🍎) menu and double-click the icon for the MAE Keyboard control panel.) To learn to reassign modifier keys, see "Changing the Keyboard Mapping" in Chapter 9 of the *MAE User's Guide*.

Mouse buttons

This book often refers to *the* mouse button, because the Macintosh operating system (Mac OS) was designed to be used with a single-button mouse. The phrase *the mouse button* refers to the first button (often called "the leftmost" button or "Mouse Button 1") on a mouse or trackball with multiple buttons. For example, if a step instructs you to "press the mouse button," you would press the first button on a three-button mouse.

You can use X window features to change the mapping of the mouse buttons.

Basic mouse and keyboard operations

In this guide, some terms represent a series of actions that you perform with the mouse, keyboard, or both. For example, the word *enter* indicates that you type a character (or a series of characters), then press the Return key.

Here is a list of standard terms for mouse and keyboard operations and the meaning of each term.

Term	Action
Click	Press and then immediately release the mouse button.
Double-click	Press and release the mouse button twice in quick succession without moving the mouse.
Drag	Position the pointer on an item on the screen, such as an icon that you want to move. Press and hold down the mouse button while moving the mouse until you have accomplished the desired task, such as moving the icon to a new location, and then release the mouse button.
Choose	Activate a command in a menu by positioning the pointer on the menu title and dragging (usually downward) through the menu until the command you want is highlighted. Then release the mouse button.
Select	Designate where the next action will take place. To select an object such as an icon, position the pointer on the object and click the mouse button once. When selected, the object appears highlighted. To select text, drag across the text until the entire range of text that you want to select is highlighted.
Type	Type a series of characters *without* pressing the Return key.
Press	Press a single key or key combination without pressing the Return key afterward.
Enter	Type a series of characters and then press the Return key.

On-line help and documentation

To use an on-line document, double-click the document icon located in the `docs` folder in your home directory. For details on using the on-line documentation, see Chapter 3 of this guide. For a more detailed description, see the *Apple DocViewer Guide*, which is also available in the `docs` folder.

The following on-line documents are shipped with MAE:

- The *Macintosh Application Environment User's Guide* contains all user information needed to use MAE, including starting and quitting; setting up and using printers, CD-ROM disks, and floppy disks; installing and using Macintosh applications; managing UNIX files with MAE; networking with MAE; and customizing your MAE desktop.
- The *Macintosh Application Environment System Administrator's Guide* contains information on placing MAE on a server for installation onto separate workstations, resource requirements (cache, memory, disk), packages, NFS/AFS, AppleTalk, and applications on an NFS server.
- The *Apple DocViewer Guide* contains a full description of the on-line documentation viewer.

To display information on using the Toolbar, see Chapter 5 in the *MAE User's Guide*.

The Read Me file (`README.TXT`)

MAE also includes an on-line Read Me file, which provides late-breaking information about MAE, and troubleshooting information about installing and using MAE on your workstation. The Read Me file (named `README.TXT`) is located in the root directory of the *Macintosh Application Environment* CD-ROM disc. You can view the Read Me file by using the SimpleText application or a standard UNIX tool, such as `more`(1) or `vi`(1).

Balloon Help

MAE comes with a feature called Balloon Help, which provides immediate on-screen help when you need it. Many Macintosh applications also support Balloon Help. If you want to know more about a window, button, menu, command, or icon in the MAE window, use Balloon Help to get the information you need. For instructions for using Balloon Help, see Appendix A of the *MAE User's Guide*.

1 Installing the Macintosh Application Environment

This chapter tells you how to install the Macintosh Application Environment (MAE) software, the MAE on-line documentation, AppleTalk, the reference manual pages, and Macintosh demonstration applications on your UNIX workstation. It describes how to perform the following tasks:

- start the MAE Installer locally on your workstation
- start the MAE Installer remotely from a server on the network
- install the MAE software by using the Easy installation option
- install selected MAE software packages by using the Custom installation option
- run the License Binder
- remove MAE from your workstation

In addition, this chapter lists the resources needed to run MAE and includes troubleshooting information about error messages that may appear during the installation.

What you need to install and run MAE

You need the hardware and software listed in the following sections to run MAE.

For all users

- a UNIX workstation that supports MAE
- a minimum of 16 megabytes (MB) of free disk space. (If you want to install AppleTalk, the on-line documentation, and the demonstration applications, you need approximately 38 MB of total disk space.)
- a minimum of 16 MB of RAM
- an X Window System server, Version 11, release 4 or release 5.
- the *Macintosh Application Environment* CD-ROM disc included in this package
- a PostScript-compatible printer or an AppleTalk printer, if you want to print from MAE
- a CD-ROM drive, or access to one over a network (if you are installing from a CD-ROM)

Note: If your company or organization has licensed multiple copies of MAE, your system administrator may make the MAE files available to you for remote installation from a server. If this is the case, you do not need the MAE CD-ROM disc or a CD-ROM drive in order to install MAE. For information about MAE licensing requirements, see the license agreement that comes with MAE.

For Solaris users

- Solaris 2.3 or higher
- Volume Manager patch. (For the latest information on patches required, see the Read Me file (`README.TXT`) in the root directory of the MAE CD-ROM disc.)

For HP-UX users

- HP-UX version 9.01, 9.03, or 9.05
- STREAMS/UX (included on the MAE CD-ROM disc). If you plan to install AppleTalk, STREAMS/UX must be installed on your system first.
- the Hewlett-Packard Audio Server. For information on patches that may be needed, see the Read Me file (`README.TXT`) in the root directory of the MAE CD-ROM disc.

  Note: MAE supports sound in HP-UX versions 9.03 and 9.05, not in HP-UX version 9.01.

Before you begin

Read this section before you install MAE on your workstation.

About the MAE software

The MAE CD-ROM disc groups the MAE software into the following packages for installation:

- the Macintosh Application Environment package, including Macintosh system software and Macintosh utility applications
- AppleTalk, which enables Macintosh networking capabilities
- the On-Line Documentation package. (See "Documentation and On-Line Help" in the Preface for descriptions of the on-line guides.)
- the Reference Manual Pages package, which includes the manual pages (man pages) that describe the UNIX commands that are part of MAE
- the Volume Manager Extension package for Solaris users
- demonstration versions of Macintosh applications (to be installed optionally with the Custom installation procedure described later in this chapter)
- The Read Me file (`README.TXT`).

Installation options

The MAE Installer lets you install MAE on your workstation from a local CD-ROM drive or from a remote server on the network. The Installer offers you the following choices:

- **Easy installation:** This option lets you install a default group of the MAE packages in a single directory. Kernel modules are installed directly into the UNIX kernel. When you choose this option, the Installer installs the MAE application, all packages that must be installed into the UNIX kernel, the on-line documentation, and the reference manual pages. Since some packages are installed into the kernel, you will need to have superuser privileges to install those packages.

WARNING MAE is incompatible with third-party AppleTalk versions. Do not install AppleTalk for MAE on your workstation if you already have AppleTalk installed on the same workstation. Before you install AppleTalk for MAE, remove the existing version of AppleTalk (according to the instructions that came with its application).

- **Custom installation:** This option lets you select the MAE packages you want to install and specify where you want them installed. You can install the packages in a single directory or in different directories.
- **Remove:** This option lets you remove the files that were installed when you previously installed MAE. The Remove option is not for updating MAE; it is for removing it from your workstation.

The installation steps summarized

The installation steps can be summarized as follows:

1 **Choose whether you want to install MAE from a CD-ROM drive attached to your local workstation or from a remote Network File System (NFS) server. (See "Starting a Local Installation from a CD-ROM Disc" or "Starting a Local Installation from a Remote Server," later in this chapter.)**

2 **Specify whether you want to perform an Easy installation or a Custom installation, or whether you want to remove a previously installed version of MAE. (See "Performing an Easy Installation," "Performing a Custom Installation," or "Removing MAE," later in this chapter.)**

3 **Run the License Binder program.**

Note: If you install MAE over a previously existing version, the `apple` directory (including the MAE executable) of the older version is archived until the new installation is completed successfully. When the new version is successfully installed, the archived old files are deleted.

IMPORTANT If you are planning to run MAE from a central server, you must install the UNIX kernel modules (AppleTalk, the Solaris Volume Manager Extensions, and streams) in your local workstation. For information on how to avoid this limitation, see Chapter 2 of the *MAE System Administrator's Guide*.

Starting the installation

The following two sections describe how to gain access to the MAE installation files on a local CD-ROM disc or a remote server or CD-ROM drive.

Note: When you begin the installation, the Installer might display a message that you must be logged in as the superuser to install AppleTalk or the Solaris Volume Manager Extensions.

It is recommended that you install with superuser ("root") privileges, but before you start to run MAE, you should log in to an ordinary user account.

Note also that if you reinstall MAE over a previous installation, you must reinstall with the same login you used the last time you installed. Thus, if you installed as root previously, you must do so again.

Remember to install any necessary patches (or other software listed in the Read Me file) before installing MAE.

Starting a local installation from a CD-ROM disc

To start the Installer, follow the steps listed in this section.

IMPORTANT If you are installing MAE on a workstation running Solaris, you should *not* use the Solaris File Manager to start the Installer. Start the Installer in a Shell Tool or a Command Tool window, using the command line interface.

1 Open a terminal emulator window on your UNIX workstation.

For example, open a Command Tool or a Shell Tool window on a Sun workstation, or an hpterm window on a Hewlett-Packard workstation.

2 Insert and mount the *Macintosh Application Environment* CD-ROM disc.

IMPORTANT You may need superuser privileges to mount a CD-ROM disc. See your system administrator for information.

Some workstations automatically mount a CD-ROM disc when you insert it into the CD-ROM drive. Other workstations require that you use the `mount`(1M) command. Your workstation may require that you mount the CD-ROM disc as "read only." For more information about mounting a CD-ROM disc, see the documentation that came with your workstation.

3 Use the `cd`(1) command to change to the directory at which the MAE CD-ROM disc is mounted.

For example, you can enter `cd /cdrom` at the command prompt.

Note: If you are running Solaris, you might need to enter `cd /cdrom/mae` to change to the directory where the MAE CD-ROM disc was automatically mounted.

Proceed to "Completing the Installation," later in this chapter.

Starting a local installation from a remote server

Your system administrator might have stored MAE on a network server or might have mounted the MAE CD-ROM on a remote server. This section tells you how to start the Installer from a remote server.

Note: Before you start the Installer, make sure that you know which directory on the server contains the MAE installation files, and be sure that you have read permission for that directory.

To start the MAE Installer on a remote server:

1 **Open a terminal emulator window on your UNIX workstation.**

For example, open a Command Tool or a Shell Tool window on a Sun workstation, or an hpterm window on a Hewlett-Packard workstation.

2 **Mount the remote server that contains the MAE installation files.**

For example, if you are running HP-UX, mount the server at the `/mnt` directory by entering the following:

`mount -r` *`remote-host:/directory-path`* `/mnt`

Replace *remote-host* with the name of the server and *directory-path* with the name of the directory that contains the MAE installation files (or the MAE CD-ROM disc). The `-r` option mounts the server as read-only.

IMPORTANT You need superuser privileges to mount the server remotely on your workstation. See your system administrator for information.

3 **Use the `cd`(1) command to change to the directory on the remote server in which the MAE installation files are located.**

For example, you can enter `cd /mnt` if you mounted the server according to the example given in step 2.

IMPORTANT Once the MAE CD-ROM disc is mounted, be sure to read the Read Me file (`README.TXT`), which is located in the root directory of the disc. The Read Me file contains the latest information that supplements this guide.

Completing the installation

Note: If you are not logged in with superuser privileges, the Installer will display a message that you must be logged in as the superuser to install AppleTalk or the Solaris Volume Manager Extensions.

```
WARNING:
The AppleTalk Kernel Modules cannot be installed or removed unless
you log in as 'root' before running the Installer program.

It is recommended that you install the AppleTalk Kernel Modules.
The AppleTalk Kernel Modules allow you to use AppleTalk networking
while you are running MAE on your workstation.

You can continue to install/remove other packages now, and then log
in as 'root' later to install/remove the AppleTalk Kernel
Modules.

If you want to quit now, press CONTROL-C.


                <<< Press the RETURN key to continue >>>
```

It is recommended that you install with superuser privileges but that when you start to run MAE, you log in to an ordinary user account.

Now that you have gained access to the MAE installer, install the MAE software as follows:

4 **At the command prompt, enter the following command:**

```
./INSTALL.SH
```

The Installer displays a welcome message.

```
   Welcome to the Macintosh Application Environment Installer

The Installer lists the Macintosh Application Environment (MAE)
software packages that you can install on your workstation. The
Installer lets you choose an Easy or Custom installation option.
The Easy option automatically installs the required MAE packages in
a single directory that you specify. The Custom option allows you
to select the packages that you want to install. (You can choose
to install them in a single directory or in different directories.)
After you choose an installation option and if necessary, select
the packages that you want to install, the Installer copies the
software to your workstation.

The Installer provides default choices in square brackets []
whenever possible. To accept the default, press RETURN at the
prompt.

To cancel the installation, you can type 'quit' and press RETURN at
any prompt.  For additional information, type 'help' and press RETURN
at any prompt.


                <<< Press the RETURN key to continue >>>
```

Once you start the Installer, you can quit it by entering `q` (or `quit`). You can display help information by entering `help`.

Note: If you are well acquainted with the installation process and do not need the messages that help you install, you can use the following options:

Enter `./INSTALL.SH -e` to proceed immediately with an easy installation.

Enter `./INSTALL.SH -c` to proceed immediately with a custom installation.

Enter `./INSTALL.SH -r` to proceed to the Remove Software screen.

If you are experienced in installing MAE, you can enter `./INSTALL.SH -q` to suppress any warning messages that appear if you do not have superuser privileges.

Easy installation, custom installation, and removal of MAE are described later in this chapter in "Performing an Easy Installation," "Performing a Custom Installation," and "Removing MAE," respectively.

5 Press Return to continue.

The Installer displays a list of packages available for the Easy and Custom installations, including space requirements for each package.

If you are not logged in as the superuser, you will not be able to install AppleTalk or the Solaris Volume Manager extensions. If this is the case, you can do one of the following:

- Continue the installation; then install the kernel packages later.
- Type `q` to quit the Installer. You can then log in as the superuser and start the Installer again.

6 Press Return again to continue.

The Installer displays three installation options: Easy, Custom, and Remove.

```
The Installer supports the following modes:

        Easy

        Custom

        Remove

For more information about each mode, type 'h' or 'help' and press
RETURN.

Type the name (or first letter) of the installation mode that you
want to use, and press RETURN.


[default=easy] >>>
```

To use the Easy option, see "Performing an Easy Installation," in the following section.

To use the Custom option, see "Performing a Custom Installation," later in this chapter.

To remove an already installed MAE, see "Removing MAE," later in this chapter.

Performing an Easy installation

When you perform an Easy installation, the Installer installs the MAE application, the on-line documentation, and the reference manual pages. In addition, it installs several packages into the UNIX kernel if you have superuser privileges, such as the files necessary to run AppleTalk and the Solaris Volume Manager extension.

WARNING MAE is incompatible with third-party AppleTalk versions. Do not install AppleTalk for MAE on your workstation if you already have AppleTalk installed on the same workstation. Before you install AppleTalk for MAE, remove the existing version of AppleTalk (according to the instructions that came with that product).

During the installation process, you can quit by entering `q` (or quit). You can display help information by typing `help`.

1 When prompted to choose an Easy or Custom installation, enter `e` (or `easy`).

The Installer asks you where you want to install the MAE files.

```
The software packages will be installed in a single directory.
Which directory do you want the packages installed in?
[default=/opt/apple] >>>
```

2 Enter the destination directory at which you want to install the MAE files, or press Return to accept the default directory.

The Installer recommends creating a directory called `apple` for the MAE files. It is recommended that the `apple` directory be created in your home directory, though the `apple` directory can be located in any directory for which you have write permission. (When you run MAE, you need only read and execute permission to the `apple` directory).

For example, if your home directory is named `benjamin` and its pathname is `/users/benjamin`, you would type `/users/benjamin/apple` to specify that the MAE files be installed in the apple directory in your home directory.

WARNING Once the Installer has created an `apple` directory and has installed MAE into it, do not move the `apple` directory to another location. If you do so, MAE will not be able to locate files it needs unless you use additional command line arguments (described in Chapter 2 of this guide).

The Installer determines whether the destination directory is valid. For example, it determines whether the destination directory has enough free disk space.

3 **Enter `y` (or `yes`) to confirm that you want to install the packages listed.**

If the destination directory is valid, the Installer displays a list of packages that will be installed and asks if you want to begin installing them.

If the directory is not valid, the Installer displays a message describing the problem, and prompts you again to select the Easy or Custom installation.

```
ERROR:
The directory shown below does not have enough free space to
install the selected package(s).
   [ /opt/apple ]

               <<< Press the RETURN key to continue >>>
```

If you enter `n` (or `no`) when asked if you want to install the packages, the Installer returns you to the opening screen. (See step 5 in "Completing the Installation," earlier in this chapter, for information.)

4 **Press Return to begin installation.**

IMPORTANT If you need to stop installation once it has begun, press Control-C. The Installer removes any partially installed packages and then quits.

During installation, the Installer displays status messages. When the Installer completes installation, it tells you where the log file is. The shell prompt then appears.

5 **If you have installed AppleTalk, reboot your workstation.**

6 **Follow the directions in "The License Binder," later in this chapter, to run the `license_binder` program.**

The `license_binder` program registers your serial number and permits you to start MAE.

Note: If your site administers the License Binder from a central location, you probably do not have to run the `license_binder` program. If this is the case, set the `MAE_LICENSES` environment variable to the location specified by your system administrator. For further information. see "If the License Binder is Administered from a Central Location" in "The License Binder," later in this chapter.

IMPORTANT If the Installer displays an error message during the installation, see "If You Have Problems Installing MAE," later in this chapter, for instructions.

Performing a Custom installation

The Custom installation option allows you to install selected packages in a single location or in several locations. For a description of the MAE packages, see "About the MAE Software," earlier in this chapter.

WARNING MAE is incompatible with third-party AppleTalk versions. Do not install AppleTalk for MAE on your workstation if you already have AppleTalk installed on the same workstation. Before you install AppleTalk for MAE, remove the existing version of AppleTalk (according to the instructions that came with that product).

During the installation process, you can quit by entering `q` (or `quit`). You can display `help` information by entering help.

To perform a Custom installation, follow these steps:

1 **When prompted to choose an Easy or Custom installation, enter `c` (or `custom`).**

The Installer asks if you want to install the package called "Macintosh Application Environment." This package contains the software necessary to run MAE on your workstation.

2 **Type `y` and press Return. If you don't want to install the package, type `n` and press Return.**

If you typed `y`*:* The Installer asks you where you want to install the files. Go to step 3.

If you typed `n`*:* The Installer asks you if you want to install the next package. Go to step 4.

3 **Enter the destination directory in which you want to install the MAE files, or press Return to accept the default directory.**

Some packages (such as AppleTalk and the Solaris Volume Manager) do not request a destination.

The Installer recommends creating a directory called `apple` for the MAE files. It is recommended that the `apple` directory be created in your home directory, though the `apple` directory can be located in any directory to which you have write permission. (When you run MAE, you need only read and execute permission for the `apple` directory).

For example, if your home directory is named `benjamin` and its pathname is `/users/benjamin`, you would type `/users/benjamin/apple` to specify that the MAE files be installed in the `apple` directory in your home directory.

WARNING Once the installer has created an `apple` directory and has installed MAE into it, do not move the `apple` directory to another location. If you do so, MAE will not be able to locate files it needs unless you use additional command line arguments (described in Chapter 2 of this guide).

The Installer determines whether the destination directory is a valid directory. For example, it determines whether the destination directory has enough free disk space.

If the destination directory is valid, the Installer asks if you want to install the next package.

If the directory is not valid, the Installer displays an error message describing the problem, and asks again if you want to install this package (step 2).

4 **Repeat steps 2 and 3 for each package that the Installer asks you about and that you wish to install.**

When this process is complete, you see a list of the packages you have chosen to install.

5 **If the list of packages is correct, press Return to install the packages.**

If you want to add or remove a package, or if you want to change the destination directory for any of the packages, enter `n`. The Installer returns you to step 1. The Installer now uses the answers you provided during the previous installation process as defaults.

After you accept the list of packages by pressing Return, the Installer begins installing the MAE files.

To stop the installation process once it has begun, press Control-C. The Installer removes any partially installed packages and then quits.

During installation, the Installer displays status messages. When the Installer completes the installation, it tells you where the log file is. Your shell prompt then appears.

6 **If you have installed AppleTalk, reboot your workstation.**

7 **Follow the directions in "The License Binder," later in this chapter, to run the `license_binder` program.**

The `license_binder` program registers your serial number and permits you to start MAE.

Note: If your site administers the License Binder from a central location, you probably do not have to run the `license_binder` program. If this is the case, set the `MAE_LICENSES` environment variable to the location specified by your system administrator. For further information. see "If the License Binder is Administered from a Central Location" in "The License Binder," later in this chapter.

IMPORTANT If the Installer displays an error message during the installation, see "If You Have Problems Installing MAE," later in this chapter, for instructions.

The License Binder

Before you can use MAE, you need to run the License Binder.

The License Binder is a tool to help the system administrator keep track of MAE licenses and to help maintain compliance with your site's license agreement.

The following sections describe the use of the License Binder. Read this material carefully. If you misassign licenses or corrupt the serial number file, you might not be able to start MAE. The serial number file is discussed in "Using the `license_binder` program," later in this chapter.

Assigning licenses

Your site has acquired a specific number of licenses to run MAE. The License Binder allows you to assign a license to a user (that is, to a user *name,* not a user *ID number*) or to a display server name.

If you assign a license only to a user name, only that user can use that particular installation of MAE. He or she can use it remotely, from any workstation, as well as locally. For example, if you assign a license only to the user name `benjamin`, then only `benjamin` can use that installation of MAE, but he can use it from any display server.

If you assign the license only to a display server, anyone using that display server can use that installation of MAE, but it can not be used from another display server. For example, if you assign a license only to `zeus:0` anybody can run MAE on the display server `zeus:0`, but the `zeus` installation of MAE cannot be run remotely.

If you assign one license to `zeus` and one to `benjamin`, then anybody can run that installation of MAE on `zeus`, but not on any other display server.

Using the `license_binder` program

When you run the `license_binder` program you are asked to type the serial number printed on the MAE Installation CD-ROM. The serial number tells `license_binder` how many licenses your site has purchased.

If you enter a valid serial number, you are prompted to enter a name to assign to each license in turn. If you do not want to assign all of the licenses at this time you can end the program by pressing Return instead of entering a name. You can assign the remaining licenses later.

When you run the License Binder, it creates a serial number file. The serial number file's location is discussed later in this section.

If you make a mistake, or if you wish to reassign one of the licenses, you can edit the serial number file, remove the incorrect lines, and run `license_binder` again.

WARNING Make sure you back up the serial number file before changing it. Use a text editor to edit the file. Save the file as "text only" if you use a Macintosh word processor. Word processing programs may add formatting information to the file, which will corrupt it. The only change you can make is to remove an entire line of text, otherwise you will corrupt the file and MAE will not use it.

The serial number file is stored in<*apple_dir*>`/license_dir/`<*serial_num*>, where <*apple_dir*> is the location where you installed MAE and <*serial_num*> is the serial number that you entered when you ran the `license_binder` program. For example, the file may be created with the following path:

```
/users/benjamin/apple/license_dir/10314573d41680xxxx
```

If you have more than one serial number, you need to run `license_binder` more than once. You do not need to assign the same name to more than one serial number, because MAE will search through all serial number files.

Note: The License Binder is intended to help system administrators keep track of MAE licenses and to and to help your site comply with Apple's End User License Agreement. If a customer tricks the License Binder into letting him or her run more than the licensed number of copies of MAE, the user is still in violation of the End User License Agreement.

If the License Binder is administered from a central location

Your site administrators may have arranged to administer all MAE licenses from a central location. If this is the case, you will probably be asked not to run the `license_binder` program as described in "Running the License Binder" (in the following section), but instead, to set the `MAE_LICENSES` environment variable to the path of that location. Be sure that you have proper network access to that location (if the location is not local). For information on running license_binder from a central location, see Chapter 1 of the *MAE System Administrator's Guide.*

Running the License Binder

1 **At the command prompt, enter the `license_binder` command.**

Enter the pathname of the `license_binder` file, which is in the `apple/bin` directory. Thus, if you have placed your `apple` directory in `/usr`, enter:

```
/usr/apple/bin/license_binder
```

The system displays the prompt:

```
Please enter your serial number: >>
```

2 **At the prompt, enter the serial number written on your disc.**

You can now assign user names or workstation names to the available licenses.

3 **Enter a name for as many of the available licenses as you wish, pressing Return after each one. If you are assigning less than full number of available licenses, end the process by pressing Return twice.**

You may now begin using MAE. For information on starting MAE, see Chapter 2 of this book.

Removing MAE

The Remove option allows you to remove MAE from your workstation. Do not use this option for the purpose of installing a newer version of MAE; use Remove only to remove MAE from your workstation altogether (for example, if the disk space is needed).

Follow these steps:

1. **Shut down all running copies of MAE.**

2. **When prompted to choose Easy Install, Custom Install, or Remove, enter `r` (or `remove`).**

   You see a list of packages that the Installer can remove.

```
The Installer knows how to remove the following packages:

    Macintosh Application Environment
    AppleTalk Kernel Modules
    Volume Manager Extensions
    On-Line Documentation
    Reference Manual Pages

                <<< Press the RETURN key to continue >>>
```

3. **Press Return to continue.**

   Before the Installer removes a package, you are prompted to decide whether to remove the package. The default is No.

```
The Macintosh Application Environment (MAE) package contains the
software that you need to run Macintosh applications on your
workstation.

Do you want to remove this package?

[default=no] >>>
```

When you enter `y` (or `yes`), if the system is unable to find a package, it prompts you to type the location of the package to be removed.

After asking about all the MAE packages, the Installer lists those you have decided to remove and asks whether to remove the packages. The default is No.

4 **To remove the packages, enter Yes. To cancel the removal, enter no or press Return.**

If you chose to remove the specified packages, the system lists the packages and the number of files that it has removed. If you chose not to remove the packages, you are returned to the screen described in step 2.

5 **If you are running HP-UX and have removed the AppleTalk package, you should restart your workstation.**

If you have problems installing MAE

This section describes some of the error messages that the Installer might display during the installation process.

Installer messages

ERROR: Not enough free space on [*destination-directory*]

Press Return to display the prompt that lets you enter a new destination directory or press `q` to quit the Installer. Free some disk space and run the Installer again.

ERROR: Cannot create directory [*destination-directory*]

You do not have the correct access permissions for the destination directory that you selected. Press Return and enter a new directory or contact your system administrator for the necessary permissions.

ERROR : The Installer encountered an unexpected error. No information is available for this error.

The Installer cannot determine what went wrong but is able to recover. If it was installing a package, that package will be removed. If it was updating, the original files will be restored.

ERROR: The Installer cannot create the directory shown below.

You probably do not have permission to create a new directory in the parent directory or the directory shown.

ERROR: The pathname that you have entered contains invalid characters. (For example, do not use the `'~'` character when specifying a pathname.)

Choose a different file or directory path that does not contain the `'~'` character. (Use environment variables such as `$HOME` instead of `'~/'`.

ERROR: The Installer cannot find any installation packages.

This can happen if the installation CD-ROM is mounted from a system that converts the file names on the CD to lower case. The Installer is case sensitive and is looking for specific file names that are all in uppercase. It can also happen if the Installer program (`INSTALL.SH`) is copied from the installation CD-ROM but the required package files have not been copied to the same location.

ERROR: An error occurred during the installation. Some packages could not be installed.

The Installer was able to continue after an error occurred, perhaps during the copy, verify, or finishing phase. Some packages may have been installed without error, but the Installer always removes packages that it fails to install correctly.

ERROR: An error occurred during package removal. Some packages may not have been removed.

The Installer was unable to continue after an error occurred while attempting to remove a package. Some packages might have been removed without error, but the Installer might leave packages in an unknown state if they cannot be completely removed. This error is very rare. The best solution is to reinstall the package in the same location, and then remove it again. For more information about error messages, see the MAE Read Me file.

Problems with the License Binder

The following problem might occur while running the License Binder. For a list of license-binder errors that can create problems at startup, see Chapter 2 of this guide.

ERROR: The control file for serial number <*file_name*> appears to be corrupted.

Remove the file and start the License Binder process for that serial number again.

If other problems arise during the installation process, see your system administrator or contact Apple Technical Support.

Where to go from here

To begin using MAE, proceed to Chapter 2 of this guide.

2 Starting and Quitting MAE

This chapter introduces you to MAE and describes the following:

- starting MAE
- quitting MAE
- troubleshooting MAE startup

Starting MAE

This section tells you how to start MAE from a command prompt in an X window.

Before you start MAE, make sure that you know which directory contains the `mae` program. If you installed MAE according to instructions presented in Chapter 1 of this guide, the `mae` program is in the `apple/bin` directory, which is in the location specified during installation.

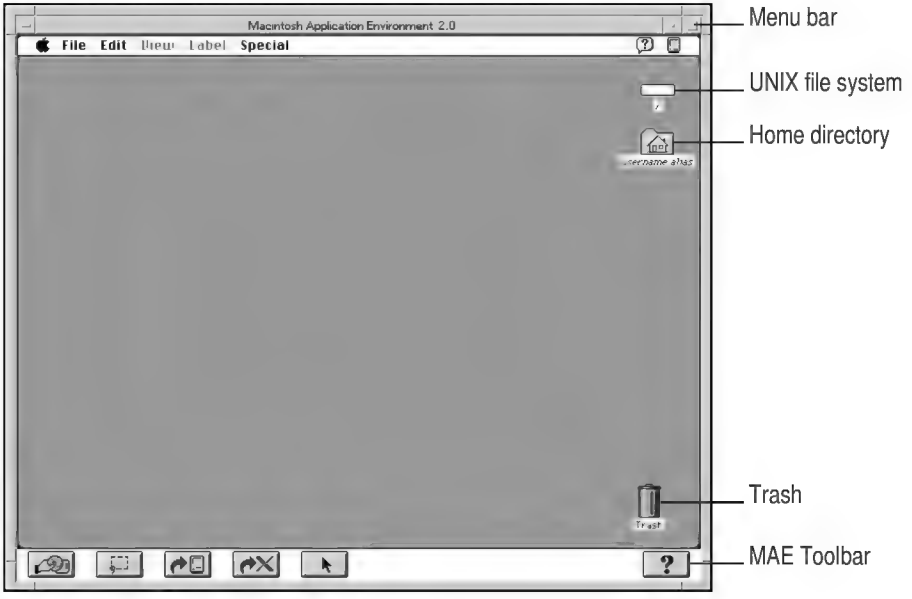
IMPORTANT If you installed MAE while logged in as root, log in as an ordinary user to start MAE. Do not start MAE with superuser privileges.

To start MAE:

1. **Open a terminal emulator window.**
2. **Enter the pathname of the `mae` program.**

For example, if `mae` is located in the `apple/bin` subdirectory of your home directory, and you are currently in your home directory, enter `apple/bin/mae` at the command prompt.

An X window appears on your screen and displays MAE copyright information. After several moments, the MAE window appears.



Using command line options

You can include command options with the mae command. The following table lists a few of the available options. For a more complete list of command-line options, see Appendix C in *MAE User's Guide,* which also contains a list of the corresponding X resources. (X resources are described in *MAE System Administrator's Guide,* Chapter 2.)

Some of the options available for the `mae` command

Command option	Description
`-help`	Display all the available command options for MAE.
`-appledir` *directorypath*	Specify the location of the `apple` directory. The default is the directory in which the MAE package was installed.
`-display` *display*	Specify the X display server on which you want MAE to appear. The default is specified by the `DISPLAY` environment variable.
`-memory` *memorysize*	Specify the memory size for applications within MAE (in MB). The default is 8 MB.
`-noextensions`	Disable Macintosh system extensions (has the same effect as holding down the Shift key while booting a Macintosh computer).

See the `mae` manual page or consult your system administrator for more information.

Using manual pages

Display the `mae` manual pages as follows:

- Append the full pathname of the `apple` directory to the MANPATH variable

  If you are running Solaris, you can use the `man` command as follows:
  `man -M` *applemandirectory commandname*

  Substitute the pathname of the `apple/man1` directory for *applemandirectory*.

For instructions on installing the manual pages, see Chapter 1 of this guide.

Quitting MAE

Quit MAE the same way you turn off a Macintosh computer:

- **Choose Shut Down from the Special menu on the MAE desktop.**

  This command quits all open Macintosh applications, puts away all mounted Macintosh volumes (including CD-ROM discs and floppy disks), and closes the MAE window. MAE performs all housekeeping tasks necessary for a clean shutdown. The Shut Down command does not quit any X applications that may be running, not even those you started from the MAE desktop, and it does not shut down your workstation.

  Note: Do not quit MAE by using window manager capabilities available in your X environment. Use the Shut Down command, as described here.

If you have problems starting MAE

The following paragraphs describe some problems that can occur in starting MAE.

MAE cannot open the `apple` directory

An error message similar to the following may appear when you start MAE.

Unable to locate *<apple_dir>*
Please use the `-appledir` option to give the path to the `apple` directory.

This message appears if MAE can't locate the directory that contains the startup files for MAE.

You can specify the directory where the MAE files are located by using the option `-appledir` *directory-path* with the `mae` command, replacing *directory-path* with the name of the directory that contains the MAE files. See the `mae` manual page for more information.

If you cannot locate the MAE files, you may need to reinstall MAE. See Chapter 1 of this guide.

MAE cannot display in the X display

If MAE cannot connect to your X display, try the following:

If you are running MAE on the same workstation that is running the X display server, set your `DISPLAY` environment variable to:

```
local:0
```

If you are running MAE on a different machine than the X display server, set your `DISPLAY` environment variable to the name of the machine on which the X display server is running and append the characters:

```
:0
```

For example, if you are running on a machine named `my_machine`, set the `DISPLAY` variable to the following:

```
my_machine:0
```

If MAE cannot connect to the X display server, run the `xhost` command on the X display server machine. For example, if MAE is running on a workstation named `my_workstation` and the X display server is on a machine named `my_terminal`, run the following command on `my_terminal`:

```
xhost +my_workstation
```

This command allows MAE on `my_workstation` to open a display on `my_terminal`.

On Solaris, the xhost command is located in `/usr/openwin/bin`. On HP-UX, `xhost` is located in `/usr/bin/x11`.

Handling startup problems

If you experience problems starting MAE, try the following:

- Install MAE as root, but log in as an ordinary user to start MAE.

  If you start MAE as root, MAE tries to build a System Folder in the root directory, which might not have enough free disk space. You must be able to create the System Folder directory in your home directory. In addition, if you start MAE as root, you increase the possibility of deleting important workstation files from within MAE.

- Be sure that you have plenty of available disk space (at least 5 MB) in your home file system.

  The Installer checks free space for the package installation, but in addition to the space needed to install, MAE uses more space by building a System Folder in your home directory when first launched. Therefore, there should be at least 5 MB available for it.

- Your home directory should be local to the machine in which the MAE process is running, that is, not connected through a remote mount point.

  The first time MAE starts, it scans the directories from the root directory to your home directory. If there are remote mount points in that path, the scan can cause delays or hangs at startup.

- Check UNIX permissions on your home directory and the files and directories within the `apple` directory. Permissions should not be a problem unless you made changes while logged in with superuser privileges.

- Check the RAM and available swap space of the workstation. MAE requires a minimum of 16 MB of RAM and 16 MB of swap space; 32 MB of RAM and 32 MB of swap space are recommended.

Problems with the License Binder

The following License Binder error messages might appear during startup.

ERROR: WARNING: Could not get `DISPLAY` value. Using user name only for license lookup.

MAE is unable to determine the display server being used and therefore cannot check to see if the display server is authorized to run MAE. Try setting the `-display` option in the `mae` command line or set the environment variable `DISPLAY` and export it.

ERROR: WARNING: Could not get *username* value. Using display only for license lookup.

MAE is unable to determine the login name of the user and therefore cannot check to see if the user is authorized to run MAE.

ERROR: Cannot access MAE license directory - '<*directory_name*>'. Your system administrator must run the 'license_binder' program to enable MAE for you.

Investigate the following possibilities:

- The directory that should contain the License Binder data files either does not exist or is not readable.
- If you have not yet run the License Binder, you must do so before launching MAE.
- If you have previously run the License Binder, make sure the directory is readable and searchable (execute permission) and try launching MAE again.
- If the License Binder data files are not in the default location, set the environment variable `MAE_LICENSES` to the path of the directory where the data files are located.

ERROR: Cannot locate any license control files. Your system administrator must run the 'license_binder' program to enable MAE for you.

Investigate the following possibilities:

- The directory that should contain the License Binder data files does not contain any data files.
- If you have not yet run the License Binder, you must do so before running MAE.
- If the License Binder data files are not in the default location, set the environment variable `MAE_LICENSES` to the path of the directory where the data files are located.

ERROR: WARNING: Skipping invalid license control file - '*<file_name>*'.

A file of unknown format has been detected in the License Binder data directory. It will be ignored.

ERROR: WARNING: Cannot open license control file - '*<file_name>*'.

A file in the License Binder data directory could not be opened for reading and will be ignored. Change the permissions to allow read access.

ERROR: WARNING: Skipping corrupted license control file - '*<file_name>*'.

A License Binder data file has been damaged. The file will be ignored. Remove the file and run the License Binder again. Attempts to modify a License Binder data file by hand often result in a corrupted data file.

For more information about error messages that may appear during startup, see the on-line Read Me file that comes with MAE (`README.TXT`).

Where to go from here

To learn how to install your Macintosh applications into MAE, see Chapter 3 of the *MAE User's Guide*, "Installing Macintosh Applications."

If you need to print a document in MAE, see Chapter 4 of this guide, "Printing in MAE."

To learn about some MAE-specific features, see Chapter 5 of the *MAE User's Guide*, "Using the Toolbar."

To use a CD-ROM disc or a floppy disk, see Chapter 6 of the *MAE User's Guide*, "Mounting CD-ROM Discs and Floppy Disks."

3 Using the On-Line Documents

This chapter presents a brief summary of DocViewer's capabilities and commands, including the following:

- opening a document
- searching with the Table of Contents and the Index
- Searching for a word or phrase
- printing text

A brief description of DocViewer

The `docs` directory in your home directory is an alias to the `apple/docs` directory, which contains the MAE on-line documents (the *MAE User's Guide* and the *MAE System Administrator's Guide*). For more information, see the *Apple DocViewer Guide*, which is also included with the MAE on-line documents. You use these documents with the DocViewer application, which is included with MAE. DocViewer allows you to do the following:

- navigate through the document
- search through the document for specific words or phrases
- use Index and Table of Contents entries to display the appropriate place in the text
- read the document on screen
- save a document to a text file

The rest of this chapter summarizes the use of the on-line documents. The *Apple DocViewer Guide* is included with the MAE on-line documents.

Opening a document

To begin, you need to display the document as follows:

1 **Open the `docs` directory in your home directory by double-clicking its icon.**

When the `docs` folder opens, you will see an icon for each of the on-line documents. The icons whose names end in `.idx` are files used by DocViewer. You cannot open them.

2 **Double-click the document's icon.**

DocViewer opens the document on your screen.

If you want to print the document, follow the directions in Chapter 4 of this book.

Searching through a document

The following paragraphs describe some of DocViewer's search features.

Navigating through the document

DocViewer provides several ways to navigate within and among documents:

- The Table of Contents window (in the Outlines menu) displays the table of contents for the active document. You can go to a chapter or section by double-clicking a line in its Table of Contents. You can have several Table of Contents windows open at one time, giving you quick access to different documents. You can filter the lines in a Table of Contents so that they appear only if they contain a specified keyword. See "Filtering the Book Index or the Table of Contents," later in this chapter.
- The book index (in the Outlines menu) displays the index for the active document. Double-clicking an index entry takes you to that reference in the document. You can filter entries in the book index so that they appear only if they contain a specified keyword. See "Filtering the Book Index or the Table of Contents," later in this chapter.
- The Bookmarks pop-up menu (in the upper-left corner of the document window) displays labels you have given to specific places in the document. You can go to the labeled text by choosing the label in the menu. See "Creating and Using Bookmarks," later in this chapter.
- The Search menu lets you search the text of the active document for specific words or phrases. It also lets you query one or more documents for complex word combinations and constructs a list of all the places where they occur.
- The Navigation menu provides several ways to find specific pages or sections in the active document.
- The Query dialog box displays all the instances of a word or phrase in a document or group of documents. Double-clicking a query line takes you to the text where the word or phrase occurs.

Using the Table of Contents

To see the Table of Contents that DocViewer creates for the active document, choose Open Table of Contents in the Outlines menu.

Every line in a Table of Contents is a section in a document. A triangle appears to the left of any section that contains subsections. You can use the Table of Contents as follows:

- Double-clicking a name takes you to that section or element (such as a figure or table). You can also click the name to select it and then press Enter.
- Clicking a right-pointing triangle shows the subsections within that section.
- Clicking a downward-pointing triangle hides the subsections of that section.

To show the entire Table of Contents, choose Expand All from the Outlines menu. To hide it, choose Collapse All.

To change the document levels displayed when a Table of Contents is expanded, choose Table of Contents Level from the Outlines menu.

Using the Index

To see the index that DocViewer creates for the active document, choose Open Book Index from the Outlines menu.

The index opens in collapsed form, showing only index letters. To use the index:

- To see the subentries for one letter or entry, click the right-pointing triangle beside that letter.
- To collapse index entries, click a downward-pointing triangle.
- To expand the whole index, choose Expand All from the Outlines menu. To collapse it, choose Collapse All.
- To go to the first occurrence of an entry, double-click the entry.
- To go to subsequent occurrences, choose Next Reference from the Outlines menu. To go backward, hold down the Shift key while you choose Next Reference.

Filtering the Book Index or the Table of Contents

At the bottom of a book index, Table of Contents, or collection window is a Filter box. To see only those entries that contain a certain word or phrase (a keyword):

- **Type the keyword in the Filter box, then click the Apply button in the lower-right corner of the window.**

Lines in the index, Table of Contents, or collections that don't contain that keyword disappear.

To restore the full list:

- **Delete the contents of the Filter box, then click Apply again.**

The filter recognizes word components, not just whole words.

Finding a specific page

To find a specific page, click the page number at the bottom of the DocViewer window. The Go To dialog box appears, which allows you to enter a page number to go to.

Finding a specific word or phrase

When you choose Find from the Search menu, a dialog box appears. You can enter text characters and ask DocViewer to find the first occurrence of that text beyond the current selection or insertion point in the document.

When you choose Find Selection from the Search menu, DocViewer searches forward for any currently selected text.

If you hold down the Shift key while choosing Find Again or Find Selection, DocViewer searches backward.

To stop a lengthy Find operation, press Command-period.

Creating and using bookmarks

You can attach your own labels to places in the active document by using commands in the Bookmark menu:

1. **Select text or a figure caption in the active document.**
2. **Choose Set from the Bookmark menu.**

   Up to 63 characters of the selected text appear as the default label in the Set Bookmark dialog box.

3. **If you want a different label (up to 63 characters long), type it in the dialog box's text field.**
4. **Click the Set button.**

   Your bookmark appears in the Bookmarks pop-up menu that appears when you click Bookmarks in the upper-left corner of the document window. Choosing a line in the Bookmarks pop-up menu takes you to the page you marked and highlights the text you labeled.

To delete a bookmark, do the following:

1. **Choose Delete from the Bookmark menu (in the menu bar).**
2. **In the dialog box that appears, click the name of the bookmark you want to delete, then click the Delete button.**

To list all bookmarks alphabetically (including new ones), do the following:

- **Choose Alphabetical from the Bookmark menu in the menu bar.**

4 Printing in MAE

This chapter tells you how to print documents in MAE. If you have AppleTalk installed and are connected to an AppleTalk printer, you can simply choose Print from the File menu, as you do on the Macintosh. If you do not have access to an AppleTalk printer, you can use your UNIX print command and still have the ease of use of a Macintosh-style interface.

This chapter introduces the following topics:

- preparing for printing
- printing via AppleTalk
- using UNIX print commands on MAE
- printing from Macintosh applications

Setting up for printing: Overview

If your workstation is connected to a printer through AppleTalk, printing from MAE is the same as printing from a Macintosh. All you need to do is use the Chooser to select a printer, then give your application's Print command. Selecting a printer is described in "Using the Chooser to Select a Printer through AppleTalk" and in "Using the Chooser to Select a UNIX Printer," later in this chapter.

MAE can also be configured to use `lp`(1) or `lpr`(1), so you can send print commands from an application running in MAE to a UNIX PostScript printer.

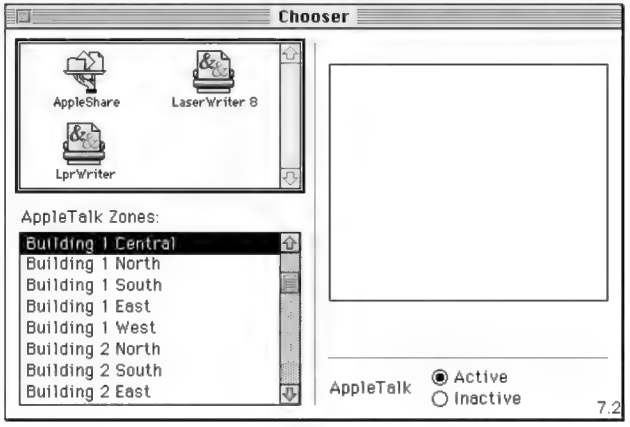
Note: MAE supports *only* PostScript printers available through the UNIX printing mechanism and printers available via AppleTalk.

For instructions on using UNIX print commands, see "Using the Chooser to Select a UNIX Printer," later in this Chapter.

The Chooser

When you select Chooser in the Apple (🍎) menu, the Chooser appears.

If you are connected through AppleTalk, and if your system administrator has divided the area into AppleTalk zones, the Chooser will look something like the following:



The icons in the box at the upper left represent the printer drivers and network software available to you.

The AppleTalk Zones box lists the zones that the system administrator has established. If there are no zones, the AppleTalk Zones box does not appear.

After you select an icon and a zone, the box at the right lists the devices available to you.

Note: The Chooser is also used to establish AppleTalk network connections. See Chapter 7 of *MAE User's Guide*.

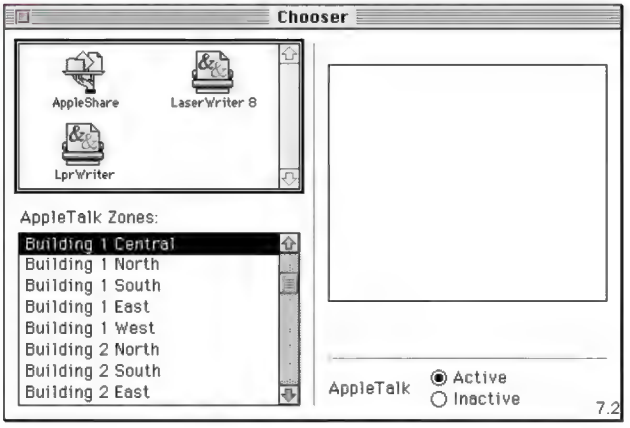
To set up your system so that the Chooser recognizes your UNIX printer and the appropriate UNIX print command, see "Using the Chooser to Select a UNIX Printer," later in this chapter.

Using the Chooser to select a printer through AppleTalk

If you are connected to a printer through AppleTalk, follow these steps to select a printer:

1 **Select Chooser in the Apple (🍎) menu.**

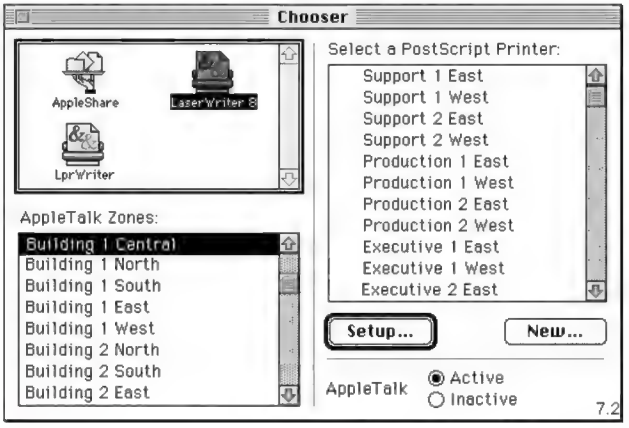
The Chooser appears on your desktop.



For a description of the Chooser, see the previous section in this chapter, "The Chooser."

2 **Select the kind of printer you plan to use.**

For example, in the illustration, LaserWriter 8 has been selected (in the box at the upper-left corner of the Chooser).



3 **Select the appropriate zone in the box at the lower-left corner of the Chooser.**

If your network does not have AppleTalk zones, the AppleTalk Zones box does not appear. Proceed to step 4.

4 **Select the appropriate printer in the box at the right.**

You must select a printer even if only one is listed.

5 **Close the Chooser by clicking the close box at the upper-left corner of the Chooser window.**

You are ready to print. See "Printing from Macintosh Applications," later in this chapter, for further information.

Using the Chooser to select a UNIX printer

This section describes how to specify UNIX commands to use for printing from MAE. Specifying a UNIX print command allows you to print from Macintosh applications without an AppleTalk connection to your printer.

Note: It is assumed that your workstation is already set up for UNIX printing. See your system administrator or the documentation that came with your workstation for information about setting up for UNIX printing.

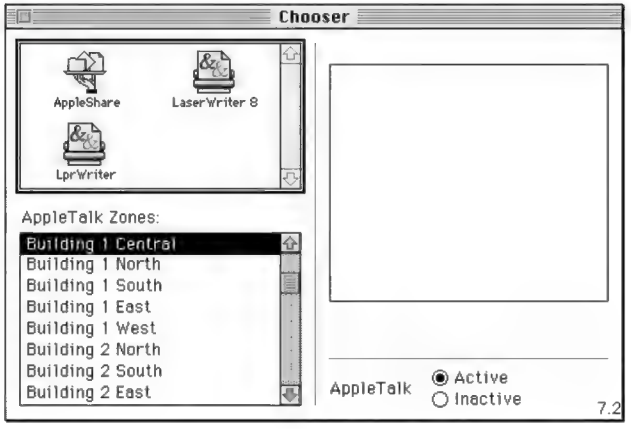
If you have more than one printer available, it's a good idea to create a separate print command for each printer so you can switch printers using the Chooser. See "Creating a New Print Command," later in this chapter.

Setting up the default print command

MAE provides a default print command, "Default lpr." You must select a PPD file to be associated with the default print command before you can print from MAE. The PPD file allows the LprWriter printer driver to generate the appropriate PostScript files for your printer.

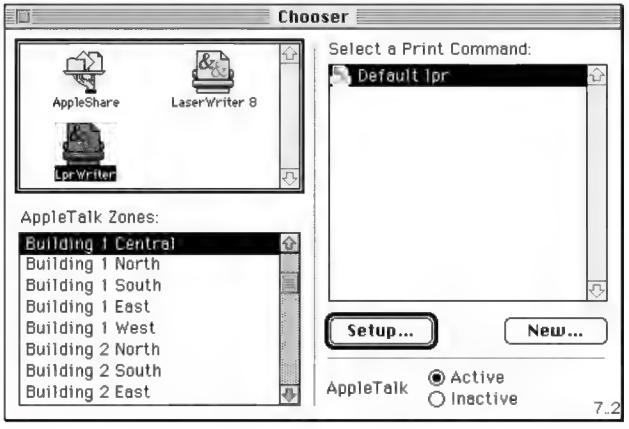
To set up the default print command:

1 **Open the Chooser in the Apple (🍎) menu.**



2 **Click the LprWriter icon in the upper-left box.**

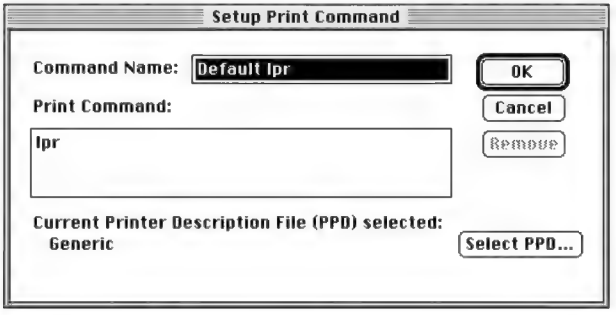
If you have previously specified print commands, a list appears in the box on the right. If you haven't, only the "Default lpr" command appears.



3 **Select "Default lpr" if it isn't already highlighted.**

4 **Click Setup or press Return.**

The Setup Print Command dialog box appears.

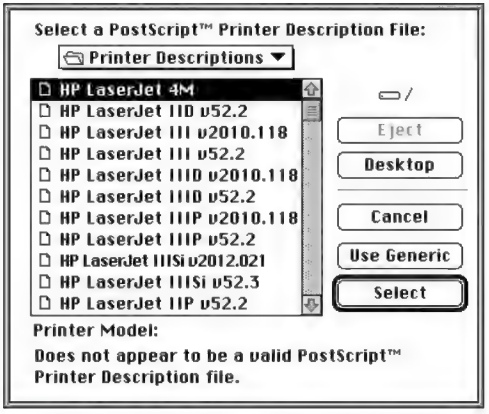


You can add options to the command by typing them in the Print Command text box.

5 **Click the Select PPD button.**

A dialog box appears listing the PPD files alphabetically by printer model. For some files, a PostScript version number appears after the model name.

Some PPD files also list the amount of memory that the printer needs to use the PPD file. For example, the PPD file "LaserWriter IIf v2010.113 2 MB" is for a LaserWriter IIf with PostScript version 2010.113 and 2 or more megabytes of memory.



6 **Select the PPD file that best matches your printer's characteristics.**

When you select a PPD file, a description of the printer model appears at the bottom of the dialog box. If more than one PPD file is available for your model, select the file that matches the printer's PostScript version and its memory capacity for efficient operation.

Note: If a PPD file is not available for your printer, click the Use Generic button in the dialog box to select a generic PPD file, which provides basic printing functions.

7 **Click Select to confirm your selection of the PPD file and return to the Chooser.**

You are now ready to print files in MAE. For instructions, see "Printing From Macintosh Applications" later in this chapter.

Sources for PPD files

If MAE does not include the PPD file you need, you can obtain it from the manufacturer of the printer or from Adobe Systems, Inc. Currently, Adobe maintains archives of PPD files on their ftp server at `ftp.adobe.com (130.248.1.4)`. The login is `anonymous`. Use your email address as the password. The PPD files are in the `/pub/adobe/PPD/mac` directory.

Place the PPD file in the Printer Description folder in the Extensions folder (in your System Folder), then select the file in the Chooser.

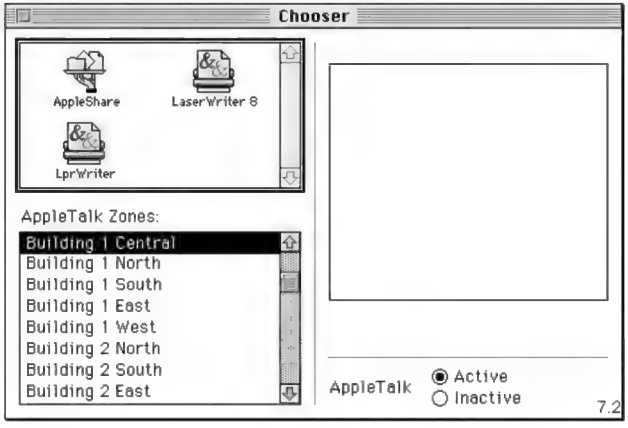
Creating a new print command

You can set up additional print commands by following the instructions in this section.

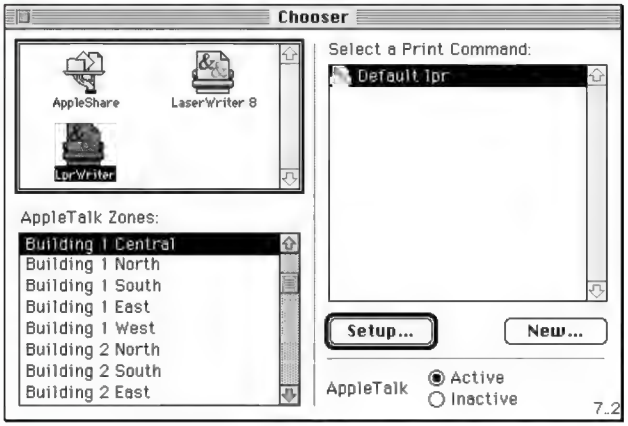
To create a new print command:

1 **Open the Chooser in the Apple (🍎) menu.**

The Chooser window appears.

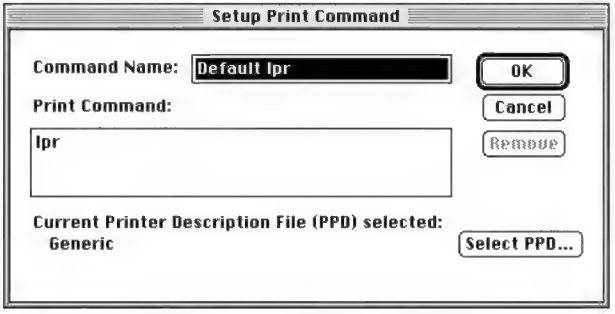


2 **Click the LprWriter icon at the left side of the dialog box.**



3 **Click the New button.**

The Setup Print Command dialog box appears.

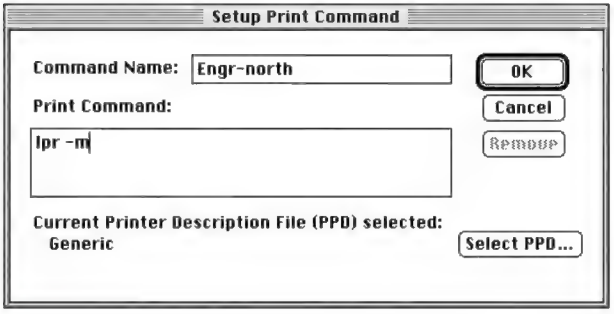


4 **Type a name for the print command in the Command Name text box.**

The command name you type will appear in the list of print commands in the Chooser window. Use a descriptive name that includes the name of the printer that you want to use.

5 **Type a UNIX print command, such as `lp` or `lpr`, in the Print Command text box.**

You can include any appropriate command options and arguments for the UNIX command, as long as the command specifies a printer that supports PostScript.



6 **Click the Select PPD button.**

A dialog box appears, listing the PPD files. For more information on PPD files, see steps 6 to 8 in "Setting Up the Default Print Command" and the section "Sources for PPD Files," earlier in this chapter.

Printing from Macintosh applications

In MAE, printing capabilities are controlled through the Print and Page Setup dialog boxes, which you display by choosing commands from the File menu. The dialog boxes differ slightly depending on the applications you use. See the documentation that came with your application for details about specific options.

IMPORTANT Before you begin printing Macintosh files, be sure that you have followed the directions in "Setting Up for Printing," earlier in this chapter.

Note: For information about setting up your workstation to print UNIX files, see the documentation that came with your workstation.

Selecting Page Setup options

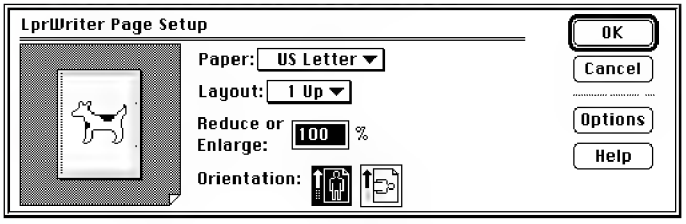
The Page Setup dialog box allows you to define certain characteristics of your document, such as its page size, format, and orientation, as well as the settings for several print effects. You should check the Page Setup options whenever you change printers.

Note: Some applications add options to the Page Setup dialog box. For information about such options, refer to the documentation that came with the application.

To select options in the Page Setup dialog box:

1 Choose Page Setup from the File menu.

The Page Setup dialog box appears.



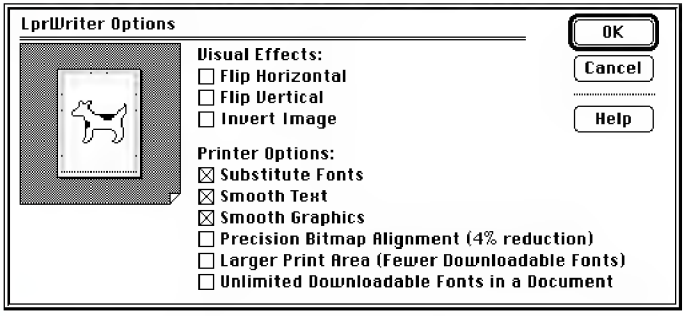
2 Select the Page Setup options you want.

When you choose a Paper, Layout, or Orientation option, the page image on the left side of the dialog box shows the result of your choice.

To see the currently selected page dimensions, click the page image. Click the page image again to close the dimensions listing.

3 **To use special-effect options, click the Options button.**

The Options dialog box appears. Click the options you want to use, then click OK to return to the Page Setup dialog box.



4 **Click OK to close the Page Setup dialog box.**

You are ready to print.

Printing Macintosh files

When you print from a Macintosh application in MAE, you'll probably see a Print dialog box. You use this dialog box to specify print options such as the number of copies you want printed, whether to print all or part of a document, and which paper tray or cassette will be the paper source.

Note: Some applications add options to the Print dialog box. For information about such options, refer to the documentation that came with the application.

To print a file created by a Macintosh application:

1 **Make sure the file is open and active, then choose Print from the File menu.**

The Print dialog box appears.

2 **Select the options that you want.**

3 **Click the Print button.**

The file is sent to the printer.

5 New Features in MAE Version 2

This chapter introduces new features of MAE version 2:

- improved performance
- AppleTalk support
- dynamic resizing of the MAE window
- sound
- several features from System 7.5
- the License Binder
- the Temporary Installer Volume
- NFS support

Overview

Version 2 of MAE includes several special features in addition to enhanced performance. The following sections introduce the new features, which are described in greater detail in Appendix B of the *MAE User's Guide*.

AppleTalk

AppleTalk networking software is included with MAE Version 2. AppleTalk allows you to use a wide variety of Macintosh networking features to share files, control file access, print documents on network printers, access information from other MAE users and Macintosh computers, and link your programs with programs on other computers.

File sharing

With file sharing, you can connect to other computers and access files you want to use, and you can share the contents of your directories and disks with users of other computers. You can also specify who can have access to your directories and disks and what level of access they are granted.

For further information, see Chapter 7 of the *MAE User's Guide*.

Program linking

Program linking allows programs and their files to exchange information. Program linking is dependent on the specific applications. See your application's documentation for information on the application's program-linking capabilities.

You can link programs on your computer to programs on other computers to share features. For example, you could link a word-processing program to a dictionary program to check the meanings and spellings of words. Or one program might instruct another to perform a specific action, such as adding a row to a spreadsheet or changing a font.

Program linking allows you to decide who can link to the programs on your computer and to specify what programs they can link to.

For further information, see Chapter 7 of the *MAE User's Guide*.

AppleTalk printing

With MAE version 2 you can easily print to a PostScript printer connected through AppleTalk. This allows you to control printing through dialog boxes instead of having to use UNIX print commands and their options.

For further information, see Chapter 4 of this guide.

MacTCP support

MAE version 2 supports the Macintosh implementation of the TCP/IP networking protocol; see Chapter 7 of the MAE User's Guide.

Dynamic resizing of the MAE window

MAE version 2 allows you to resize the MAE window dynamically, using your workstation's X window controls.

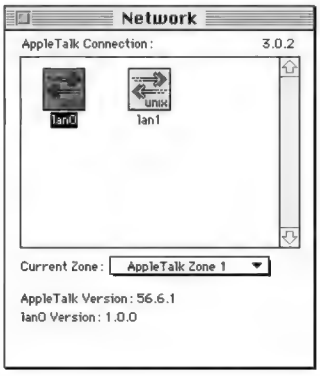
You can also resize the window with the Monitors control panel. See Appendix B of the *MAE User's Guide*.

Sound

MAE version 2 now supports the full range of sounds that the Macintosh supports. See Appendix B of the *MAE User's Guide*.

Network control panel

The Network control panel allows you to select which of your network interfaces you wish to use. See Appendix B of the *MAE User's Guide*.

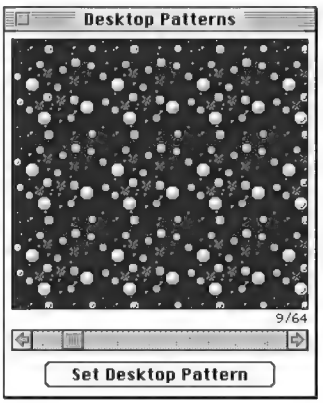


Macintosh System 7.5 enhancements

MAE version 2 contains some of the new features to be found in System 7.5, which are described in the following sections.

New desktop patterns

The Desktop Patterns control panel provides a wide array of desktop patterns. The control panel icon and window are shown below.



You can include your own designs by copying and pasting graphics or photos (stored as PICT files) into the control panel.

For further information see Appendix B of the *MAE User's Guide* for details.

Launching programs easily

The Launcher control panel opens a window that lets you launch frequently used programs with one click.

See Appendix B of the *MAE User's Guide* for details.

Creating Sticky Notes

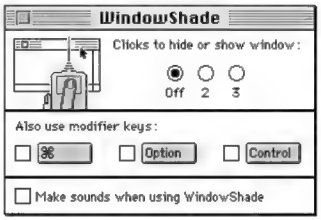
Sticky Notes are windows without scroll bars. You can create these notes and "stick" them to your screen image by selecting Stickies in the Apple (🍎) menu. You select New Note in the File menu to create a note.

To move through a Sticky Note, use the up and down arrow keys.

See Appendix B of the *MAE User's Guide* for details.

Saving screen space with WindowShade

The WindowShade control panel allows you to reduce screen clutter. You can shrink windows with one or more clicks on the title bar, so that only the title bar shows.



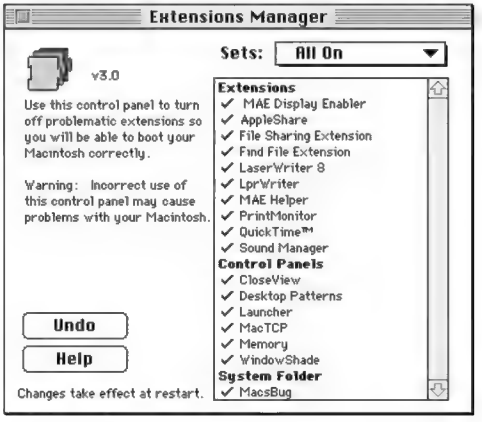
You can set the number of clicks it takes to roll up the window. Click the title bar again to expand the window to full size.

See Appendix B of the *MAE User's Guide* for details.

Managing extensions and startup programs

MAE includes a number of extensions (such as control panels and devices that appear in the Chooser). Use the Extensions Manager control panel to determine which extensions are on or off when the computer starts up. You can establish sets of related extensions and switch them on or off as necessary.

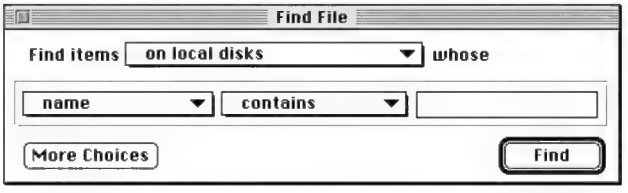
Extensions Manager



See Appendix B of the *MAE User's Guide* for details.

Find File

MAE includes System 7.5's new Find File features, that allows a wider range of search parameters.



License Binder

The License Binder helps the system administrator keep track of the number of MAE licenses used. See Chapter 1 of this guide.

Temporary Installer Volume (TIV)

The TIV provides an alternate method for installing applications. It helps solve problems that arise when certain application installers try to install applications into the root of the file system. See Chapter 3 of the *MAE User's Guide*.

Improved support for Network File System (NFS)

See Chapter 2 of the *MAE System Administrator's Guide*.

Index

A

access privileges. *See* License Binder; superuser privileges
Adobe Systems, Inc., PPD file archives 44
Alphabetical (Bookmark menu) 36
Andrew File System (APS) xi, 56
apple directory 11, 14
apple/docs directory 32
Apple DocViewer Guide xiv, 32
Apple DocView User's Guide 32. *See also* on-line documents
AppleShare x
AppleTalk
  installation and 4, 8, 9, 10, 13, 14
  printing with 39–40
  Version 2 features 50–51
  zones 38–39

B

Balloon Help xiv
bookmarks 33, 36

C

Caps Lock key xii
cd(1) command 6, 7
CD-ROM disc, installing MAE from 5, 6
Chooser
  creating new print command for 44–46
  description 38–39
  for selecting AppleTalk printers 39–40
  for selecting UNIX printers 41–46
Command key xii
command-line options 24
  with mae command 24–25
commands
  cd(1) 6, 7
  `./INSTALL.SH` 8–9
  `license_binder` 18
  `lp`(1) 38
  `lpr` 38, 41–42, 46
  `mae` 24–25
  `man` 25
  `mount`(1M) 6
  `xhost` 27

Command Tool window (Solaris), installing from 6
Control key xii
control panels
  Desktop Patterns 52
  Extensions Manager 55
  Launcher 53
  Network 51
  WindowShade 54
Custom installation of MAE
  definition 4
  procedure 13-15

D

Delete (Bookmark menu) 36
disk space requirements 28
display server
  assigning license to 16
  License Binder problems 29
  startup problems 27
docs directory 32
documents, on-line. *See* on-line documents
DocViewer, described 32. *See also* on-line documents

E

Easy installation of MAE
  definition 4
  procedure 10–13
error messages. *See* troubleshooting
exiting MAE 26
Extensions Manager control panel 55

F

features, MAE version x–xii, 49–56
File menu
  New Note 53
  Page Setup 47–48
  Print 48
file sharing x, 50
Filter box 35
Find File features 55
finding text 33, 35

G

Go To dialog box 35

H

hard disk space requirements 28
hardware requirements 2–3
help, on-line xiv
hpterm window (HP-UX), installing from 6
HP-UX users, requirements for 3

I

Index 33, 34, 35
installing MAE 1–15
  AppleTalk and 4, 8, 9, 10, 13, 14
  from CD-ROM disc 5, 6
  Custom 4, 13–15
  Easy 4, 10–13
  previous installation and 5, 8
  from remote server 5, 7, 8–10
  Remove option (for old version) 4, 19–20
  running License Binder 5, 18
  Solaris users and 6, 8, 9, 10, 14
  stopping installation 12, 13, 15
  summary of steps 4–5
  superuser privileges and 5, 6, 8, 9
  Temporary Installer Volume (TIV) 56
  troubleshooting 20–22
`./INSTALL.SH` command 8–9

K

Keyboard control panel xii
keyboard operations, terminology used for xiii

L

Launcher control panel 53
License Binder xi, 16–18, 53
  administering from central location 13, 15, 18
  editing serial number file for 17
  role of 12, 17
  running after installation 5, 18
  troubleshooting 22, 29–30
`license_binder` command 18
linking programs x, 50
logging in 23
`lp`(1) command 38
`lpr`(1) command 38, 41–42, 46
LprWriter printer driver 41, 42, 45

M

Macintosh Application Environment System Administrator's Guide, on-line xiv, 32. *See also* on-line documents
Macintosh Application Environment User's Guide, on-line xiv, 32. *See also* on-line documents
Macintosh applications, printing from 46–48
Macintosh files, printing x, 48
Macintosh System 7.5 enhancements xi, 52–55
MacTCP support x, 51
`mae` command 24–25
`MAE_LICENSES` environment variables, centrally administered licenses and 13, 15, 18
MAE manual pages, using 25
MAE version 2 differences x–xii, 49–56
man command 25
memory requirements 2, 28
modifier keys xii
mount(1M) command 6
mouse buttons xii
mouse operations, terminology used for xiii

N

navigating through a document 33
Network control panel 51
Network File System (NFS) xi, 56
new features in MAE version 2 x–xii, 49–56
New Note (File menu) 53
Next Reference (Outlines menu) 34

O

on-line documents 31–36
  bookmarks 33, 36
  finding a specific page in 35
  finding a word or phrase in 35
  idx icons and 32
  Index 33, 34, 35
  listed xiv
  navigating 33
  opening 32
  searching in 33–35
  Table of Contents 33, 34
  using 33–36
Open Book Index
    (Outlines menu) 33, 34
opening an on-line document 32
Open Table of Contents
    (Outlines menu) 34, 35
Option key xii
Outlines menu
  Expand/Collapse All 34
  Next Reference 34
  Open Book Index 33, 34
  Open Table of Contents 34, 35
  Table of Contents Level 34

P

page, going to 35
Page Setup dialog box 47–48
PPD file 41
  downloading from the Internet 44
  selecting 43, 46
print command
  changing 44–46
  default 41–43
Print dialog box 48
printer requirements 2
printing
  default print command 41–43
  from Macintosh applications 46–48
  Macintosh files 48
  page setup options 47–48
  PPD files for 41, 43, 44
  setting up for 38–46
  via AppleTalk printer 39–40
  via more than one printer 41
  via UNIX printer 41–46
program linking x, 50

Q

Query dialog box 33
quitting MAE 26

R

RAM requirements, startup problems
    and 28
Read Me file (`README.TXT`)
    xiv, 2, 3, 5, 7
remote mounts, startup problems and 28
remote server
  assigning license to 16
  installing MAE from 5, 7, 8–10
removing an old MAE installation
    4, 19–20
resizing MAE window dynamically
    xi, 51
  by shrinking 54
"root" privileges. *See* superuser
    privileges

S

screen display
  Desktop Patterns control panel for 52
  saving space on 54
searching
  Search menu 33, 35
  System 7.5 Find File feature 55
serial number 16–17
serial number file 17
Set (Bookmark menu) 36
Shell Tool window (Solaris), installing from 6
Shut Down (Special menu) 26
software requirements 2–3
Solaris users
  installation and 6, 8, 9, 10, 14
  requirements for 2
sound x, 51
Special menu, Shut Down 26
starting frequently used programs 53
starting MAE 23–25
  troubleshooting 26–30
Sticky Notes 53
superuser privileges
  for installation 5, 6, 8, 9
  startup problems and 28
System 7.5 enhancements xi, 52–55
System Folder, disk space required for 28

T

Table of Contents
  filtering 35
  using 33, 34
TCP/IP support x, 51
Temporary Installer Volume (TIV) xi, 56
terminology xiii
troubleshooting
  installing MAE 20–22
  License Binder 22, 29–30
  starting MAE 26–30
troubleshooting (Installer)
  Cannot create directory [*destination directory*] 20
  Installer cannot create specified directory 21
  Installer cannot find installation packages 21
  Installer could not install some packages 21
  Invalid characters in pathname 21
  Not enough free space on [*destination directory*] 20
  Some packages not removed during installation 21
  Unexpected error 20
troubleshooting (License Binder)
  Cannot access MAE licenses directory 29
  Cannot locate license control files 29-30
  Cannot open license control file 30
  Control file corrupted 22
  Could not get `DISPLAY` value 29
  Could not get username value 29
  Skipping corrupted license control file 30
troubleshooting (startup)
  Cannot open apple directory 26
  Cannot display in the X display 27

U

UNIX, printing with 38–44
UNIX kernel modules, installation and 4, 5
users
  assigning licenses to. *See* License Binder
  superuser privileges, installing for 5, 6, 8, 9, 10

V

version 2 differences x–xii, 49–56

W

window
  dynamic resizing of xi, 51
  shrinking size of 54
WindowShade control panel 54

X

`xhost` command 27

Z

zones, AppleTalk 38–39

The Apple Publishing System

This Apple manual was written, edited, and produced on a desktop publishing system using Apple Macintosh computers, Microsoft Word 5.1, and QuarkXPress. Technical illustrations were drawn in Adobe™ Illustrator; screen shots were created and modified with system software, ExposurePro, Aldus SuperPaint, and Adobe Photoshop. Proof pages were created on Apple LaserWriter printers and on QMS and Tektronix color printers. Final pages were output directly to separated film on a PostScript™-driven imagesetter.

Text type is Times®, display type is Helvetica® Narrow, and cover type is Apple Garamond, Apple's corporate font. Ornaments are custom symbols designed for Apple Computer.

PostScript, the LaserWriter page-description language, was developed by Adobe Systems Incorporated.